

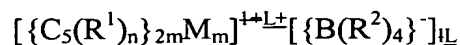
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1-15. (Canceled)

16. (Currently Amended) A polymerization initiator for a cationically polymerizable organic substance, wherein said polymerization initiator comprises a crystalline ion-association substance having the general formula (I):



wherein M is a transition metal of center nucleus; C₅ is a cyclopentadienyl group; R¹—~~an electron donative or electron attractive substituent bonded to a carbon atom of cyclopentadienyl group, or an organic group bridging two neighboring carbon atoms is selected from the group consisting of alkyl group, cycloalkyl group, alkoxy group, aryl group, dialkyl group, silyl group, acyl group, cycloalkenyl group, amino group, carboxyl group, organoboranyl group, phosphino group, aldehyde group, hydroxyl group, vinyl group and alkylene group~~; n is a number within range of 0 to 3; m is either 1 or 2; L is either 1 or 2; R² is a ligand coordinated to boron atom (B), and the four R²(s) are the same to each other.

17-18. Canceled.

19. (Previously Presented) The polymerization initiator claimed in claim 16, wherein said transition metal of center nucleus (M) of said general formula (I) is selected from the group consisting of Ti, Zr, Fe, Ru, Os, Hf, V, Cr, Mo and W.

20. Canceled.

21. (Currently Amended) The polymerization initiator claimed in claim 16, wherein ~~the crystalline ion association substance having the general formula (I) comprises a metallocene derivative cation having mono-nucleus structure or di-nucleus structure~~ which constitutes the crystalline ion-association substance having the general formula (I) is selected

from the group consisting of acetyl ferrocenium cation, tert.-amyl ferrocenium cation, benzoyl ferrocenium cation, n-butyl ferrocenium cation, cyclohexenyl ferrocenium cation, cyclopentenyl ferrocenium cation, 1,1'-diacetyl ferrocenium cation, 1,1'-di-n-butyl ferrocenium cation, N,N-dimethylaminomethyl ferrocenium cation, 1,1'-dimethyl ferrocenium cation, ethyl ferrocenium cation, (dihydroxyboranyl) ferrocenium cation, 1-hydroxyethyl ferrocenium cation, hydroxymethyl ferrocenium cation, vinyl ferrocenium cation, 1,1-bis(diphenylphosphino) ~~ferrocenium~~ferrocene cation, ferrocenium cation, t-butyl ferrocenium cation, dibutyl ferrocenium cation, ~~bis(cyclopentadienyl) chromium cation~~, ~~bis(cyclopentadienyl) molybdenum chloride cation~~, 1, 2, 4, 1', 2', 4'-hexamethyl ferrocenium cation, tetramethyl ferrocenium cation, hexamethyl ferrocenium cation, bis(cyclopentadienyl) osmium cation, ~~bis(t-butylcyclopentadienyl) titanium chloride cation~~, bis(cyclopentadienyl) dicarbonyl titanium cation, ~~bis(cyclopentadienyl) titanium chloride cation~~, ~~bis(cyclopentadienyl) tungsten chloride cation~~, ~~bis(i-propylcyclopentadienyl) tungsten chloride cation~~, vanadocenium cation, ~~bis(n-butylcyclopentadienyl) zirconium chloride cation~~, ~~bis(t-butylcyclopentadienyl) zirconium chloride cation~~, ~~bis(cyclopentadienyl) zirconium chloride cation~~, ~~bis(ethylcyclopentadienyl) zirconium chloride cation~~, ~~bis(methylcyclopentadienyl) zirconium chloride cation~~, bis(indenyl) dimethyl zirconium cation, ~~bis(t-butylcyclopentadienyl) hafnium chloride cation~~, ~~bis(ethylcyclopentadienyl) hafnium chloride cation~~, ~~bis(iso-propylcyclopentadienyl) hafnium chloride cation~~ and diferrocenium derivative cation.

22. (Previously Presented) The polymerization initiator claimed in claim 16, wherein said ligand (R^2) of the said formula (I) is selected from the group consisting of aryl group, halogenated aryl group, halogen haloform aryl group, cycloalkynyl group, halogenated cycloalkyl group, halogenated cycloalkynyl group, cycloalkoxy group, cycloalkenyloxy group, alkadienyl group, alkatrienyl group, alkynyl group, halogenated alkenyl group, halogenated alkadienyl group, halogenated alkatrienyl group, halogenated alkynyl group and heterocyclic group.

23. (Previously Presented) The polymerization initiator claimed in claim 16, wherein said crystalline ion-association substance having the general formula (I) comprises a tetradentate borate complex anion selected from the group consisting of tetrakis(4-

fluorophenyl) borate anion, tetrakis(4-fluorobiphenyl) borate anion, tetrakis[3,5-bis(trifluoromethyl)phenyl] borate anion, tetrakis(3,5-difluorophenyl) borate anion, tetrakis[4-(trifluoromethyl)phenyl] borate anion, tetrakis(2,3,5,6-tetrafluorophenyl) borate anion, tetrakis(1,2,3,4,5-pentafluorophenyl) borate anion, tetrakis(3,4,5-trifluorophenyl) borate anion, tetrakis(3-fluoropropane) borate anion, tetrakis[3,5-bis(1,1,1,3,3,3-hexafluoro-2-methoxy-2-propyl)phenyl] borate anion, tetrakis(2,4,6-trifluorophenyl) borate anion, tetrakis(nonafluorobutyl) borate anion, tetrakis(perfluorohexyl) borate anion, tetrakis(perfluoropentyl) borate anion, tetrakis(perfluorooctyl) borate anion, tetrakis(perfluoro-3-methylbutyl) borate anion, tetrakis(perfluoro-5-methylbutyl) borate anion, tetrakis(heptafluoropropyl) borate anion, tetrakis(3,5-dichlorophenyl) borate anion, tetrakis(4-chlorophenyl) borate anion, tetrakis(benzyl chloride) borate anion, tetrakis(chlorobenzyl) borate anion, tetrakis[2-(perfluorobutyl)ethyl] borate anion, tetrakis[2-(perfluorohexyl)ethyl] borate anion, tetrakis[2-(perfluorooctyl)ethyl] borate anion, tetrakis[2-(perfluoro-7-methylhexyl)ethyl] borate anion, tetrakis[2-(perfluoro-5-methylhexyl)ethyl] borate anion, tetrakis[2,2,3,3-tetrafluoropropyl] borate anion, tetrakis(1H,1H,5H-octafluoropentyl) borate anion, tetrakis(1H-perfluorohexyl) borate anion, tetrakis(1,1-difluoroethyl) borate anion, tetrakis[3,5-bis(trifluoromethyl)benzyl] borate anion, tetrakis[4-(trifluoromethyl)benzyl] borate anion, tetrakis(3,5,-difluorobenzyl) borate anion, tetrakis(4-fluorobenzyl) borate anion, tetrakis(4-ethoxyphenyl) borate anion, tetrakis(4-methoxyphenyl) borate anion, tetrakis(4,5-dimethoxyphenyl) borate anion, tetrakis(4-butylphenyl) borate anion, tetrakis(t-butylphenyl) borate anion, tetrakis(phenyl) borate anion, tetrakis(biphenyl) borate anion, tetrakis(terphenyl) borate anion, tetrakis(mesityl) borate anion, tetrakis(pentamethylphenyl) borate anion, tetrakis(3,5-dimethylphenyl) borate anion, tetrakis(cyclopropyl) borate anion, tetrakis(cyclobutyl) borate anion, tetrakis(cyclohexyl) borate anion, tetrakis(cyclopentyl) borate anion, tetrakis(cyclooctyl) borate anion and tetrakis(phenoxybutyl) borate anion.

24. (New) A use of the polymerization initiator claimed in claim 16 in a polymerization of cationically polymerizable organic substance.

25. (New) The use as claimed in claim 24, wherein said cationically polymerizable organic substance is a compound or mixture of at least two compounds

Patent Appl. No. 09/890,438
Reply to USPTO Correspondence of January 29, 2004
Paper dated July 29, 2004
Atty. Docket No. 1214-011212

selected from a group consisting of methylol compounds, ethylenic compounds, polyacetal compounds, organosiloxane compounds, polyamide compounds and heterocyclic compounds.

26. (New) The use as claimed in claim 25, wherein said cationically polymerizable organic substance is selected from a group consisting of organosiloxane compounds, epoxy compounds and mixtures thereof.